



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,334	07/02/2003	Horst Wittur	VGBS-40004	3803

7590 10/22/2007

7590  
PYLE & PIONTEK  
ROOM 2036  
221 N LASALLE  
CHICAGO, IL 60601

EXAMINER	
PICO, ERIC E	

ART UNIT	PAPER NUMBER
3654	

MAIL DATE	DELIVERY MODE
10/22/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/612,334	WITTUR ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Eric Pico	3654	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,6-10 and 12-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-10 and 12-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d) based upon an application filed in Germany on 08/10/2001 and 01/04/2001. A claim for priority under 35 U.S.C. 119(a)-(d) cannot be based on said application, since the United States application was filed more than twelve months thereafter.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. The term "essentially" in claims 2 and 6 is a relative term which renders the claim indefinite. The term "essentially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

5. The term "about" in claim 6 is a relative term which renders the claim indefinite. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

*B*  
*10/5/07*  
7. Claim(s) 1, 2, <sup>6-</sup>10, and 15-17 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda U.S. Patent No. 4591025 in view of Aulanko et al. WO Publication No. 03/000581, and Berkovitz U.S. Patent No. 3838752.

8. **Regarding claim 1**, Honda discloses a gearless cable-operated elevator comprising a drive sheave drive including a drive sheave 1, several parallel carrier cables 3, and a spaced counter sheave 2, the cables 3 being guided from the drive sheave 1 to the counter sheave 2, back to the drive sheave 1, and wrapped around the drive sheave 1 and arranged above or below a cage, and a counterweight 5 being attached to the carrier cables 3, for a machine-room-free installation, characterized in that the carrier cables 3 run in semicircular grooves in the sheaves.

9. Honda is silent concerning guide rails being provided for the cage, the carrier cables are steel cables having a nominal diameter between 5 to 7 mm and run in semicircular grooves in the sheaves having undercut portions each with a width between 1 and 3 mm and that the ratio of the drive sheave diameter to the nominal diameter of the carrier cables is less than 40.

Art Unit: 3654

10. Aulanko et al. teaches guide rails 10 being provided for the cage 1, carrier cables 3 are steel cables having a nominal diameter between 5 to 7 mm, Page 22, Lines 14-18, and run in semicircular grooves in the sheaves having undercut portions, shown in Fig. 3, and that the ratio of the drive sheave diameter to the nominal diameter of the carrier cables is less than 40, Page 14, Lines 26-31.

11. Berkovitz teaches semicircular grooves in the sheaves having undercut portions each with a width dimension of only about 3/16 inch and an undercut width to rope diameter ratio of 0.375.

12. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the cage disclosed by Honda with guide rails as taught by Aulanko et al. to facilitate the travel of the cage.

13. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the carrier cables disclosed by Honda steel cables having a nominal diameter between 5 to 7 mm as taught by Aulanko et al. and make the ratio of the drive sheave diameter to the nominal diameter of the carrier cables disclosed by Honda is less than 40 as taught by Aulanko et al. to reduce torque on the shaft of the gearless motor and provide a smaller motor.

14. It would have been obvious to one of ordinary skill in the art at the time of the invention to run in semicircular grooves in the sheaves disclosed by Honda having undercut portions each with a width between 1 and 3 mm as taught by Berkovitz to facilitate traction between the carrier cables and the sheaves.

Art Unit: 3654

15. **Regarding claim 2**, Honda is silent concerning the ratio of the drive sheave diameter to the nominal diameter of the carrier cables being essentially 30.

16. Aulanko et al. teaches the ratio of the drive sheave diameter to the nominal diameter of the carrier cables being essentially 30, Page 14, Lines 26-31.

17. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the ratio of the drive sheave diameter to the nominal diameter of the carrier cables disclosed by Honda essentially 30 as taught by Aulanko et al. to reduce torque on the shaft of the gearless motor and provide a smaller motor.

18. **Regarding claim 6**, Honda is silent concerning the elevator configured for useful cage loads of up to 2000 kg and the carrier cables have a nominal diameter of essentially 7 mm, and the ratio of the drive sheave diameter to the nominal diameter of the carrier cables preferably being about 34.

19. Aulanko et al. teaches an elevator configured for useful cage loads of up to 2000 kg, Page 14, Lines 6-17, and the carrier cables have a nominal diameter of essentially 7 mm, Page 22, Lines 14-18, and the ratio of the drive sheave diameter to the nominal diameter of the carrier cables preferably being about 34, Page 14, Lines 26-31.

20. It would have been obvious to one of ordinary skill in the art at the time of the invention to configure the elevator disclosed by Honda for useful cage loads of up to 2000 kg as taught by Aulanko et al., have the carrier cables disclosed by Honda essentially 7 mm as taught by Aulanko et al., and make the ratio of the drive sheave diameter to the nominal diameter of the carrier cables disclosed by Honda preferably

being about 34 as taught by Aulanko et al. to reduce torque on the shaft of the gearless motor and provide a smaller motor.

21. **Regarding claim 7**, Honda is silent concerning the elevator being configured for useful cage loads between 300 kg and 1000 kg in particular.

22. Aulanko et al. teaches an elevator being configured for useful cage loads between 300 kg and 1000 kg in particular.

23. It would have been obvious to one of ordinary skill in the art at the time of the invention to configure the elevator disclosed by Honda for useful cage loads between 300 kg and 1000 kg in particular as taught by Aulanko et al. to provide support for loads between 300 kg and 1000 kg.

24. **Regarding claim 8**, Honda discloses an elevator system configured in that counter sheave 2 is simultaneously a distancing deflection sheave.

25. **Regarding claim 9**, Honda discloses for adaptation to the occurring cable forces along, the number of applied carrier cables is variable in the drive sheave drive 1.

26. **Regarding claim 10**, Honda discloses the drive sheave 1 and the counter sheave 2 of the drive sheave drive are vertically arranged with respect to one another and in the area of a shaft head in the area of a shaft pit.

27. **Regarding claim 15**, Honda discloses a cage suspension for the elevator is provided with a ratio of 1 to 1.

28. **Regarding claim 16**, Honda is silent concerning a loose pulley cage suspension for the elevator is provided with a ratio of between 2 to 1 and 4 to 1.

29. Aulanko et al. teaches a loose pulley cage suspension for the elevator is provided with a ratio of between 2 to 1 and 4 to 1, shown in Fig. 1.

30. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the elevator disclosed by Honda with a loose pulley cage suspension with a ratio of between 2 to 1 and 4 to 1 as taught by Aulanko et al. to meet desired motor and weight constraints within the elevator.

31. Claim(s) 12-14 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda U.S. Patent No. 4591025 in view of Aulanko et al. WO Publication No. 03/000581, and Berkovitz U.S. Patent No. 3838752 as applied to claim 1 above, and further in view of Hollowell International Publication No. 99/43595.

32. **Regarding claim 12**, Honda is silent concerning the drive sheave and the counter sheave of the drive sheave drive are arranged on the bottom or on the roof of the cage.

33. Hollowell et al. teaches an elevator system, characterized in that a drive sheave 30 and a counter sheave 34 of the drive sheave drive are arranged on the bottom of a cage 16.

34. It would have been obvious to one of ordinary skill in the art at the time of the invention to arrange the drive sheave and the counter sheave of the drive sheave drive disclosed by Honda on the boom of the cage as taught by Hollowell et al. to accommodate the elevator components within the environmental restraints of the shaft.

35. **Regarding claim 13**, Honda is silent concerning the drive sheave drive is fixed to an elevator frame for the elevator.

Art Unit: 3654

36. Hollowell et al. discloses an elevator system, characterized in that drive sheave 30 is fixed to an elevator frame 16 for the elevator.

37. It would have been obvious to one of ordinary skill in the art at the time of the invention to fix the drive sheave drive disclosed by Honda to an elevator frame for the elevator as taught by Hollowell et al. to reduce space within the hoistway and facilitate easy access to the elevator drive sheave.

38. **Regarding claim 14**, Honda is silent concerning holding elements for the drive sheave drive are integrated in a cage frame or in a cage main support.

39. Hollowell et al. teaches an elevator system, characterized in that holding elements for the drive sheave 30 are integrated in the cage frame 16.

40. It would have been obvious to one of ordinary skill in the art at the time of the invention to integrate holding elements to the drive sheave drive disclosed by Honda a cage frame as taught by Hollowell et al. to reduce space within the hoistway and facilitate easy access to the elevator drive sheave.

41. Claim(s) 17 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda U.S. Patent No. 4591025 in view of Aulanko et al. WO Publication No. 03/000581, and Berkovitz U.S. Patent No. 3838752 as applied to claim 1 above, and further in view of Damien U.S. Patent No. 5651245.

42. **Regarding claim 17**, Honda is silent concerning the carrier cables single-layer round core cable.

43. Damien teaches single-layer round core 3 cable 1.

44. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the carrier cables disclosed by Honda single-layer round core cable as taught by Damien to have a very good uniformity of diameter, reduce permanent elongation and reduce risk to damage of members for winding the cable.

45. Claim(s) 18 and 19 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda U.S. Patent No. 4591025 in view of Aulanko et al. WO Publication No. 03/000581, and Berkovitz U.S. Patent No. 3838752 as applied to claim 1 above, and further in view of Aulanko et al. U.S. Patent No. 5665944.

46. **Regarding claim 18**, Honda is silent concerning a motor of the drive sheave drive is a three-phase asynchronous motor or a three-phase synchronous motor.

47. Aulanko et al. teaches a three-phase asynchronous and three-phase synchronous drive sheave motor for use in a gearless elevator system. The use of the motor taught by Aulanko et al. minimizes the drive sheave as well as adds additional space within the hoistway due to its small size.

48. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the motor disclosed by Honda a three-phase asynchronous or three-phase synchronous drive sheave motor as taught by Aulanko et al. to minimize space within the elevator hoistway as well as drive the elevator system

49. **Regarding claim 19**, Honda is silent concerning a motor of the drive sheave drive embodied without mechanical emergency braking device.

50. Aulanko et al. teaches a drive sheave embodied without a mechanical emergency stop braking device to minimize the size of the drive sheave as well as prolong the life span of the drive sheave

51. It would have been obvious to one of the ordinary skill in the art at the time of the invention to make the drive sheave disclosed by Honda a drive sheave embodied without a mechanical emergency stop braking device as taught by Aulanko et al. to increase the life span of the drive sheave.

### ***Response to Arguments***

52. Applicant's arguments with respect to claim 1, 2, 6-10, and 12-19 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

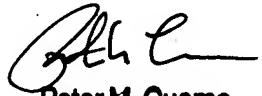
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Pico whose telephone number is 571-272-5589. The examiner can normally be reached on 6:30AM - 3:00PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on 571-272-6856. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3654

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EEP

  
Peter M. Cuomo  
Supervisory Patent Examiner  
Technology Center 3600